

# Final Report

## Virginia Marine Debris Reduction Plan Refinement

### FY19, Task 94.03



Submitted to the Virginia Coastal Zone Management Program by  
Katie Register, Executive Director, Clean Virginia Waterways of Longwood University

#### **Contributors to this report:**

Katie Register, Executive Director, Clean Virginia Waterways of Longwood University.  
Virginia Witmer, Outreach Coordinator, Virginia Coastal Zone Management Program  
Christina Trapani, Christina Trapani Consultant

#### **March 2021**

Grant Period: October 2019 – September 2020 (with an extension to December 31, 2020)

Grant Number: FY 2019 Task 94.03, Section 309 NA19NOS4190163



Of Longwood University



The Virginia Coastal Zone Management Program is a network of state agencies and coastal localities. The Virginia Department of Environmental Quality serves as the lead agency for the network.

## PROJECT SUMMARY

This task supported the Virginia Coastal Zone Management (CZM) Program's commitment to provide leadership in reducing the amount of trash and marine debris from land-based and water-based sources in Virginia and the Mid-Atlantic region. This grant from the VA CZM Program to Clean Virginia Waterways (CVW) of Longwood University supported various projects that furthered the implementation of the Virginia Marine Debris Reduction Plan (funded under FY11 Task 95.03).

The work on this grant was accomplished by CVW in close collaboration with the staff of the Virginia CZM Program, and stakeholders in Virginia as well as other mid-Atlantic states.

### **About the Virginia Marine Debris Reduction Plan**

The Virginia Marine Debris Reduction Plan, published in 2014, serves as a roadmap for nonprofit organizations, local governments, state agencies, regional partners, researchers, and industry as they work together on sustained approaches to reducing the flow of plastic trash and other trash items into our coastal waters.

The Virginia Marine Debris Reduction Plan utilizes multiple approaches. Solutions to marine debris will come from a combination of:

- Behavior change campaigns;
- Policies and enforcement;
- Increased responsibilities of producers, manufacturers and distributors;
- Informed consumers;
- Acceptable and readily available substitutes (e.g., fabric shopping bags);
- Increased infrastructure to capture materials at sources and increase "ease" in doing the right thing with waste items

**Funding for this grant:** This grant was funded with \$60,000.

**Covid-19 impacts:** Travel restrictions put in place in mid-March 2020 due to Covid-19 resulted in a need to reallocate portions of the grant budget. All of the Travel and most of the Supplies budgets were shifted to the Contractual line item. This allowed Clean Virginia Waterways to:

1. Create a longer version of the balloon release video (in English), focusing more on alternative activities for celebrations and memorial services that won't result in marine debris.
2. Create two Spanish versions of the "alternatives to balloon releases" video.
3. Create and launch the Virginia Plastic Pollution Prevention Network (described below).
4. Conduct background research on abandoned and derelict vessels programs in other states, and start to form the Virginia Abandoned and Derelict Vessels Work Group.
5. Pivot the "Keep It Beachy Clean" program to focus more on fishing line recycling and on-beach messaging (rather than reaching beach visitors through hotels and restaurants).
6. Further implementation of the "Kick the Straw" campaign on college and university campuses was postponed.

# Marine Debris Reduction in Virginia

## (Product #1)

During this grant period, progress was made on implementing many aspects of the Virginia Marine Debris Reduction Plan through work described below. Under direction of the Virginia CZM Program, Clean Virginia Waterways (CVW) fostered collaboration between agencies, local governments, researchers, manufacturers and businesses, non-profits and citizens.

### A. Legislation:

CVW provided extensive information about the sources and impacts of litter and marine debris to legislators and their staffs as well as on the LitterFreeVA.org website, a collaborative effort to increase communication about legislative solutions to litter and marine debris.

**Virginia's Litter Tax:** CVW continued to engage with nonprofits, including Clean Fairfax, LitterFreeVA.org, Lynnhaven River NOW, and the Virginia Sierra Club, as they sought to have the Virginia Litter Tax increased for the first time in more than 40 years. While Clean Virginia Waterways doesn't lobby legislators, it does share information from its 25-year data base about litter in Virginia. With [HB 1154](#), the Virginia General Assembly voted to raise the annual Virginia litter tax for the first time in 43 years from \$10 to \$15 and the additional annual litter tax from \$15 to \$30. Both taxes are imposed on manufacturers, wholesalers, distributors, and retailers of certain products, however, the additional tax applies to fewer businesses. According to CVW's research, the tax would be \$40 annually if it had been indexed to inflation. A related bill, [HB 502](#) passed that will raise by \$100 the existing penalty for litter tax delinquency

**Single-use plastic bags:** The first legislation in Virginia on **single-use plastics** was passed and signed by the Governor during this grant period. The bill ([SB 11](#)) allows counties and cities to impose a five cent fee for plastic bags provided to consumers by certain retailers. (Note: as of the writing of this report, no locality in Virginia has implemented a fee.)

**Plastic Waste Prevention Advisory Council:** The Governor also approved [HB 1354](#), and the formation of a **Plastic Waste Prevention Advisory Council** to study and make recommendations regarding plastic pollution problems in the Commonwealth, with the mission of eliminating plastic waste and contributing to the achievement of plastics packaging circular economy industry standards. (Note: as of the writing of this report, this Council has not been appointed.)

**Expanded Polystyrene (EPS):** Phasing out the use of expanded polystyrene (EPS) food service containers was also supported by the VA General Assembly in 2020 with bill [HB 533](#), but will need to pass again in the next legislation session in order to become law. The law would prohibit the dispensing by a food vendor of prepared food to a customer in a single-use expanded polystyrene food service container. Chain restaurants would have to stop using such containers by July 1, 2023, and all other food vendors would have to discontinue use by July 1, 2025. (Note: A [modified version](#) of this bill was passed in 2021, and so EPS food service containers will be phased out by Virginia's food vendors.)

### B. Virginia Plastic Pollution Prevention Network

This new network (co-created by CVW, VA CZM Program and Eco Maniac Company LLC) was launched in August 2020 as a result of the VA Marine Debris Reduction Plan which identified the benefits that increased collaboration could bring to the many and diverse issues around marine debris, litter, and single-use plastic pollution. The VPPP Network's goal is to facilitate communication among people and organizations working on all aspects of preventing or removing marine debris, litter and single-use plastic items. The VPPPN hosts monthly webinars, and its website includes a membership directory and discussion forums:

<http://vaplasticpollutionpreventionnetwork.org/>

See Appendix I for a list of topics and speakers who participated in the VPPPN monthly webinars.

### C. Abandoned and Derelict Vessel Work Group

CVW and the VA CZM Program provided leadership in initiating discussions in Virginia with the US Navy, US Coast Guard, local governments, marinas, and other key partners so the extent of the abandoned vessel problem can be better understood and addressed. While the first meeting of the work group was in January 2021, much of the background research and building the work group was supported by this grant. The progress made by the work group and its four subcommittees since January 2021 can be seen here:

<http://www.longwood.edu/cleanva/ADV.html>

### D. Keep it Beachy Clean

Fresh Keep It Beachy Clean stickers were placed on trash cans on beaches with the help of volunteers. Keep It Beachy Clean continued to provide litter-prevention messaging on social media and volunteer cleanup event assistance throughout the year. Ms. Trapani engaged members of the hospitality industry by presenting at several meetings, and organizing several local cleanups of litter in fall of 2019.



Due to Covid-related tourism declines during the summer of 2020, CVW and its consultant, Christina Trapani, pivoted the “Keep It Beachy Clean” program to focus more on fishing line recycling and on-beach messaging rather than reaching beach visitors through hotels and restaurants. Fishing line recycling signs (see below) were provided by Keep It Beachy Clean, and installed at eight fishing locations by the Virginia Beach Parks and Natural Areas Department.

According to Michael Moore, Environmental Programs & Initiatives Lead with the Virginia Beach Parks & Recreation:



*“We feel the general public and facility users became more aware of what the fishing line recycling containers were for and their impacts to the environment by using them and not using them. We have seen an uptick in use of the fishing line recycling bins we had installed years ago thanks to the signs.”*

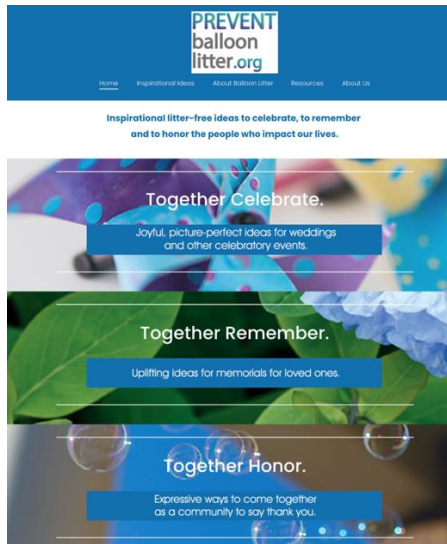


*Clean Virginia Waterways' Keep It Beachy Clean program coordinated with the City of Virginia Beach to create and install eight signs near popular fishing spots, encouraging people to remove fishing line from the environment, and recycle it in the provided bins.*

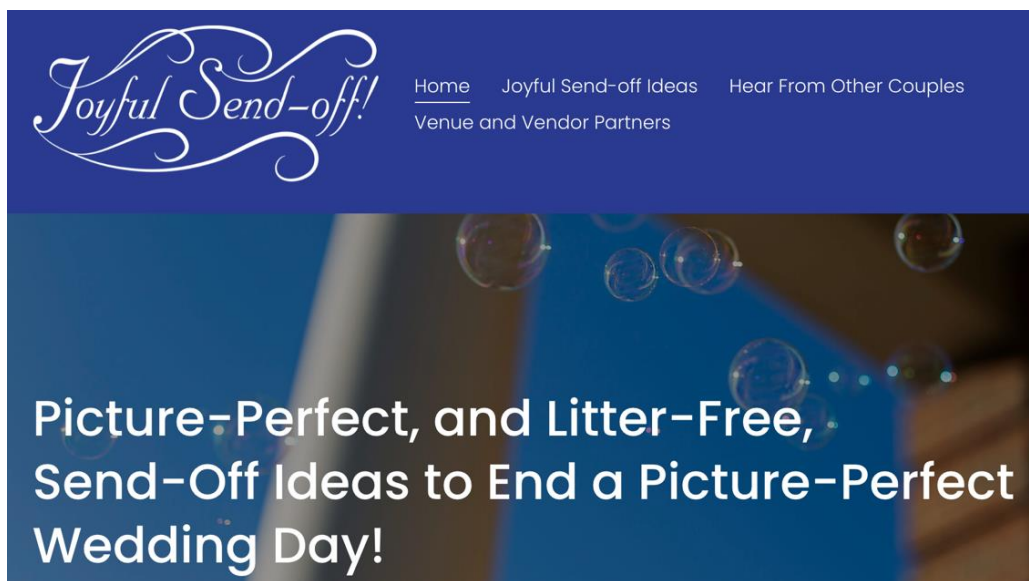
#### E. Outreach and Raising Awareness

This grant allowed for the continued hosting and major updating of two web sites: JoyfulSendoff.org and PreventBalloonLitter.org. This included extensive new content, photos, a move to a new server, and new graphics that are shared on Facebook to drive people to the websites. Organizations from around the world are partners on the PreventBalloonLitter.org website. The website will also serve as a resource for the Mid-Atlantic states' campaign to reduce the intentional releasing of helium-filled balloons (described below).

CVW and VA CZM staff continued to add posts on Facebook for Joyful Send-off and Prevent Balloon Litter.



*The all-new PreventBalloonLitter.org website, designed by VA CZM Program's Virginia Witmer, and written by Katie Register (CVW) and Virginia Witmer, offers inspirational litter-free ideas for people to celebrate, remember or honor the people who impact their lives.*



*The updated JoyfulSendoff.org website, designed by VA CZM Program's Virginia Witmer, and written by Katie Register (CVW) and Virginia Witmer, offers inspirational litter-free ideas for weddings and other "happy event" celebrations.*

Resources, data, and information about the VMDRP, Joyful Send-off Community-Based Social Marketing campaign, balloon monitoring, and mid-Atlantic regional planning on marine debris prevention were shared with attendees of the VA Green Conference, the VA Water Monitoring Council Conference, a great lake marine debris group, and several presentations to the public.

Media coverage resulted from a press release that CVW sent on 12-18-19 regarding the extensive monitoring of marine debris on four coastal beaches that was completed by the VA Aquarium & partners.

**Videos:** Since travel was curtailed due to Covid-19 restrictions, funds from this grant were re-

purposed to add more content to the videos that offer alternatives to balloon releases for people who are celebrating or are planning memorial events. The videos were also re-recorded in Spanish.



*These stills from the “Alternatives to Balloon Releases” videos show that balloon litter can impact wildlife on land...and in the ocean.*

#### F. Updating the VA Marine Debris Reduction Plan

In this period, CVW began updating the VA Marine Debris Reduction Plan for 2021-2025 by gathering input through two surveys, and co-hosting a webinar with the VA CZM Program for members of the VA Marine Debris Leadership team on March 17, 2020. One-on-one interviews with key stakeholders took place during this period with Keep VA Beautiful, the VA Institute of Marine Science, and other key stakeholders. CVW staff reviewed plans from other states, and secured a \$3000 grant from the National Marine Sanctuary Foundation to assist with the work.

## Marine Debris Reduction in Mid-Atlantic (Product #1)

#### Regional Solutions to Marine Debris: The Mid-Atlantic Marine Debris Work Group

Since marine debris is a transboundary problem across the Mid-Atlantic, CVW staff were engaged in monthly discussions of the Mid-Atlantic Regional Planning Body Marine Debris Work Group as well as smaller task groups working on development of regional approaches to prevent or remove marine debris. Because of Virginia's earlier work in creating a marine debris reduction plan and creating a Community-Based Social Marketing (CBSM) campaign to address balloon litter, CVW and the VA CZM Program staff often provided guidance and background information to the Mid-Atlantic RPB Marine Debris Work Group.

Specifically, the VA CZM Program and CVW contributed to the expansion of a CBSM campaign in Mid-Atlantic states to reduce the intentional releasing of helium-filled balloons. CVW and VA CZM Program staff assisted MARCO with many aspects of its grant from NOAA Marine Debris Program including focus groups, development of surveys, surveys with the public, analysis of input, and consultations with Dr. Doug McKenzie-Mohr, the premier expert on Community-Based Social Marketing. This project involved close collaboration with aquariums in the Mid-Atlantic.

CVW consulted with the Maryland Department of Natural Resources as they held a marine debris workshop to rank marine debris sources to include in their Coastal Zone Assessment and Strategy and determine feasible near-term and longer-term priorities to prevent marine debris.

**Mid-Atlantic Marine Debris Action Plan:** CVW staff provided assistance to the NOAA Marine Debris Program staff as they are working to create a marine debris plan for the mid-Atlantic region.



# Product #2

## Building Local Governments' Capacities to Prevent Marine Debris

### A. Engaging the Stormwater Management Community on Land-Based Sources of Marine Debris



As part of efforts to build local governments' capacities to prevent land-based sources of marine debris from entering waterways, CVW and many partners organized the third annual **"Stormwater + Litter Workshop"** held on February 10, 2020. A total of 67 stormwater and public utilities professionals from local governments, military bases, universities and businesses discussed solutions to stormwater-borne litter including monitoring protocols, solutions to intercepting land-based debris items, and preventing litter from entering storm drains. Legal and policy measures to reduce litter from single-use plastics were also discussed.

Stormwater managers discussed challenges and solutions to land-based sources of marine debris during the workshop which featured presentations from Clean Virginia Waterways, National Oceanic and Atmospheric Administration's Marine Debris Program, Virginia Coastal Zone Management Program, local governments and nonprofit groups, and a corporation that designs engineered solutions to remove plastic pollution from streams.

See Appendix II for the workshop agenda and lists of speakers and attendees.

Intercepting litter before it enters stream is a core goal of the Virginia Marine Debris Reduction Plan since 60% to 80% of marine debris comes from inland sources including littering, mis-managed solid waste, uncovered trucks, balloon releases, illegal dumping, etc. There are growing concerns about the impacts of debris and plastic pollution in rivers, the ocean and coastal waters, along with increasing emphasis on stormwater management of litter and debris.

#### **Co-sponsors of and contributors to the 2020 Stormwater and Litter Workshop:**

- Clean Virginia Waterways of Longwood University (workshop coordinator)
- Virginia Water Monitoring Council

- Alliance for the Chesapeake Bay with funding from the National Fish and Wildlife Foundation
- Virginia Lakes and Watershed Association
- Virginia Coastal Zone Management Program
- Prince William County Environmental Services--division of Public Works
- National Oceanic and Atmospheric Administration, Marine Debris Program

**B. Local collaborations:** Throughout this grant period, CVW staff contributed to the Fairfax and Prince William Counties' marine debris prevention work groups as they develop monitoring programs, community outreach, built partnerships, sought funding to support local litter monitoring and litter prevention projects. The work groups, made up of government staff and NGOs, focus on local solutions to land-based sources of marine debris.

# Product #3

## Balloon Debris Monitoring

Surveys were conducted on Fisherman Island National Wildlife Refuge on November 11, 2019, February 8, 2020 and July 15, 2020 as part of this grant. This site was selected as Virginia's main monitoring site to track marine debris deposition over time as part of the NOAA Marine Debris Programs' grant to MARCO. No monitoring could be done in spring 2020 due to predator removal work and then the nesting of protected birds.

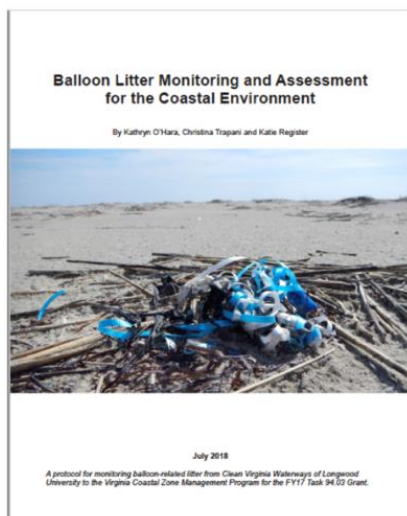
Researchers Christina Trapani and Kathy O'Hara were sub-contracted by CVW to conduct monitoring of balloon litter on Fisherman Island National Wildlife Refuge to better understand the abundance, distribution, accumulation and fate of balloon litter in coastal environments of Virginia. All permits were obtained prior to the surveys.

In order to standardize monitoring and assessment of balloon-related litter, CVW used the *Balloon Litter Monitoring and Assessment for the Coastal Environment* protocol that was developed in 2018 (FY18, Task 94.03) (O'Hara, Trapani and Register, 2018). These protocols enhance the ability to determine where balloon litter is most prevalent in specific coastal areas and provide a basis for monitoring and assessment of balloon litter on a regional, national, or international level.

This protocol is used by the Mid-Atlantic states as grant partners monitor balloon litter on their beaches.

The protocol can be downloaded from the CVW Publications page:

<http://www.longwood.edu/cleanva/publications.html>



*This protocol allows groups to monitor balloon litter in coastal environments and create comparable data.*

## Highlights from this Year of Monitoring

Balloon-related litter items (n=440) topped the list of most commonly found items during the surveys. The rest of the top-ten list was made up of plastic beverage bottles (n= 353), construction materials (n=299), rope pieces (n=230), glass beverage bottles (n=106), buoys & floats (n=77), plastic bottle caps (n=76), food wrappers (n=65), shotgun wads (n=60), and tied in 10<sup>th</sup> place: plastic cups & plates (n=43) and hard plastic food containers (n=43).

Table 1: Data aggregated from three surveys on Fisherman Island National Wildlife Refuge show balloon-related litter (balloons, ribbons and other attachments) were the most commonly found type of debris.

Rank	Item	Number
1	Balloon-related items	440
2	Beverage bottles, plastic	353
3	Construction materials	299
4	Rope pieces	230
5	Beverage bottles, glass	106
6	Buoys, floats	77
7	Bottle caps, plastic	76
8	Food wrappers	65
9	Shotgun wads	60
10	Cups & plates, plastic	43
	Hard plastic food containers	43

Table 2: Data from the three surveys show that balloon-related debris was 9.2% to 13.3% of all debris items found

Survey Date	Balloon-related debris items	Other debris items	All items	Percent of all debris that was balloon-related
11/11/19	201	1314	1515	13.3%
2/8/20	110	1082	1192	9.2%
7/15/20	129	1244	1373	9.4%
TOTALS	440	3640	4080	10.8%

### All Balloon-related Litter

For each balloon litter item recorded, specific information was obtained on the type (latex, foil, weather balloon) and quantity. Data were also collected about ribbons and other attachments. The 440 balloon-related litter items from these two surveys included 57 latex balloons, 86 foil balloons, 289 plastic ribbons, and 8 attachments such as plastic disks, pieces of tape, and clips used to tie-off balloons and attach plastic ribbons. No weather balloons or sky lanterns were recorded during this study period.

### Balloon-related debris items:

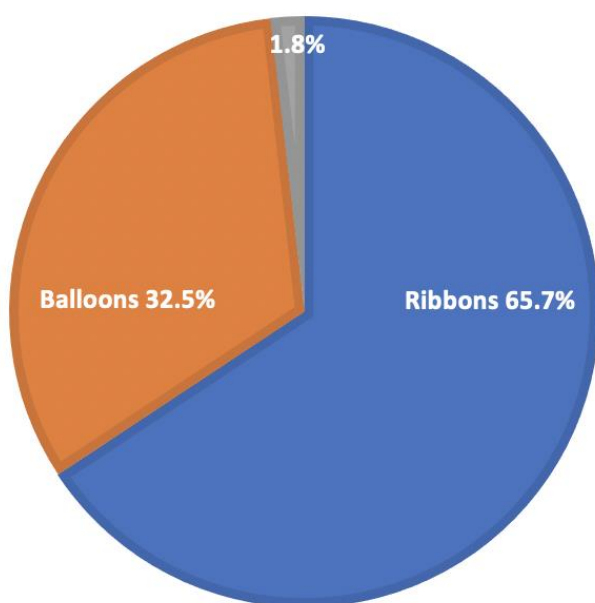
Latex Balloons	57
Foil Balloons	86
Ribbons	289
Attachments	8
Total	440

### Composition of Balloon Litter

Of the balloon-related litter, 65.7% was made up of plastic ribbons, 32.5% was made of balloons, and the remainder 1.8% was made up of other attachments.

### COMPOSITION OF BALLOON LITTER

■ Ribbons 65.7% ■ Balloons 32.5% ■ Other Attachments 1.8%



*Plastic ribbons accounted for 65.7% of the balloon-related litter on Fisherman Island.*

### Latex vs. Foil Balloons

Unlike last year's monitoring, latex balloons (n=57) were outnumbered by foil balloons (n=86). Foil balloons comprised 60.1% of the total balloons, and latex balloons were 39.9%. Findings from the previous five-year study were latex balloons (56%) being more abundant than foil (43%).

### Plastic Ribbons and Other Balloon Attachments

At least 289 plastic ribbons were collected during this study period. This count is a conservative since multiple plastic ribbons entangled in a bunch could not be accurately counted in the field. In these cases, ribbon bunches were recorded as one unless distinct colors were noted. Therefore, while the plastic ribbon count was large, it is also an underestimate of true amounts.



### Event and Greeting Messages

Both foil and latex balloons can be purchased with pre-printed messages indicating specific events and greetings such as “Happy Birthday,” “Congratulations,” and “I Love You.” During this study period special event balloons included:

Happy Birthday (n=6)

Happy Anniversary (n=1)

Merry Christmas (n=1)

### Shoreline Location of Balloon Litter

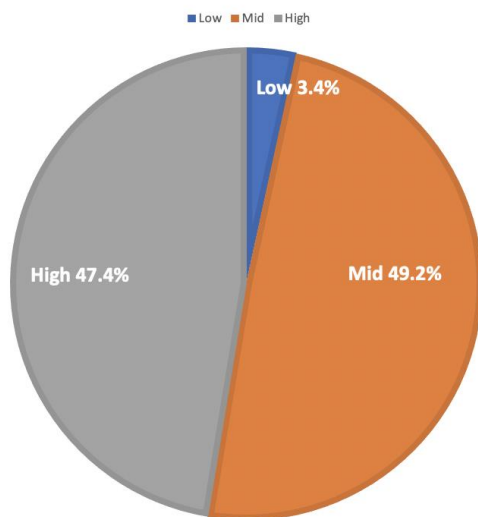
The location of all balloon debris was recorded according to the beach profiles: “low” (in the swash zone), “mid” (between the high tide line and the beach face), and “high” (between the high tide line and the dune vegetation).



*Most balloon-related debris, like this group of balloons and ribbons, were found high or mid-beach.*

When aggregating data from these three surveys, we found that 49.2% (n=131) were found mid-beach, and 47.4% (n=126) were found above the high tide line and in the dune vegetation. Only 3.4% of balloon-related was found low on the beach.

LOCATION OF BALLOON LITTER ON SHORELINE



*Most of the balloon-related litter items were found mid-beach up to the dune vegetation.*

It is assumed that winds eventually blow most marine debris items including balloons and plastic ribbons toward the highest portion of the beach where it becomes trapped by dune vegetation. As this area is critical for nesting birds, diamondback terrapins, and sea turtles, balloon-litter concentrated here may pose an increased threat of entanglement.

### Comparing to earlier research

The large amount of balloon-related litter recorded on Fisherman Island National Wildlife Refuge during this grant period is similar to earlier research findings that the remote beaches of Virginia are “hot spots” for the accumulation of this type of marine debris. Balloons and plastic ribbons continue to be of concern especially in areas designated for protecting wildlife.

The prevalence of plastic ribbons is also a consistent finding from previous studies done by the Virginia Aquarium and Clean Virginia Waterways (Register, Trapani, Swingle, 2019).

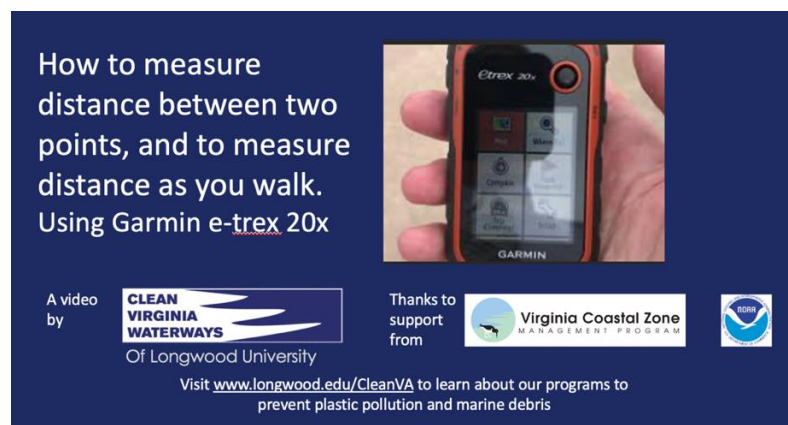
In the 2019 report “*Monitoring Marine Debris in Virginia’s Coastal Zone, Project Report: April 2014 through June 2018*,” balloons were the #1 most frequently recorded debris type on Chincoteague NWR, #3 on Fisherman Island NWR, #5 on Back Bay NWR, and #7 on Grandview Nature Preserve. That multiple-year study noted that Virginia’s remote beaches are “Hotspots” for balloon-related litter (Register, Trapani, Swingle, 2019). Also that it is impossible to determine where the helium-filled balloons started their journeys since balloons can travel hundreds of miles before bursting or deflating.

Previous research confirms that balloons accumulate on coastal beaches where they are often the most common type of trash. According to *Balloon Litter on Virginia’s Remote Beaches* (Trapani, O’Hara & Register, 2018), presence of balloons and balloon-related pieces of litter (e.g., plastic ribbons) varied between the coastal beaches (Cedar Island, Hog Island, Smith Island, Fisherman Island NWR and False Cape State Park) from 25 items per mile on Cedar Island, to more than 272 items per mile on Fisherman Island NWR. During the 5-year study, 11,441 balloon-related litter items were recorded during 46 surveys. The majority of the balloon litter (60%) was found between the high tide line and the dune vegetation – critical habitat for nesting birds, sea turtles, and diamondback terrapins (Trapani *et al.*, 2018).

## Other Notes

### Instructional Video

Under the FY17 grant from the VA CZM Program, CVW created an instructional video for Mid-Atlantic partners on how to use the GPS units that were provided to them through a VA CZM Program grant. Amazingly, this video has been viewed more than 27,000 times.



This video can be viewed on YouTube at:

<https://www.youtube.com/channel/UC79VQJ1IkeGbKJDT-6owRyw>

## References

O'Hara, K., Trapani, C., & Register K. (2018). *Balloon Debris on Virginia's Barrier Islands: Results of Monitoring from 2013 through 2017*. Clean Virginia Waterways, Longwood University.

Register, K., Trapani, C., Swingle, M. 2019. *Monitoring Marine Debris in Virginia's Coastal Zone*, Project Report: April 2014 through June 2018. NOAA CZM Grant NA16NOS4190171, Task 81. Virginia Aquarium & Marine Science Center Foundation Scientific Report 2019-03, Virginia Beach, VA, 80 pp.

Trapani, C., O'Hara, K., & Register K. (2018). *Balloon Litter Monitoring and Assessment for the Coastal Environment*. Clean Virginia Waterways, Longwood University.

## APPENDICES

Appendix I – Virginia Plastic Pollution Prevention Network – Topics and speakers from monthly webinars

Appendix II – Stormwater and Litter Workshop—Agenda and attendees

Appendix III – Monitoring Balloon-related Debris: raw data

## Appendix I –

### The Virginia Plastic Pollution Prevention Network



This list shows the VPPPN monthly webinars' speakers and topics. Members of the VPPPN can view recordings of past webinars by going to [VaPreventPlasticPollution.org](https://VaPreventPlasticPollution.org)

#### October 2020

- Sarah Stewart, Plan RVA: Don't Trash Central Virginia Campaign
- Main Topic: Legislative Info
  - Jen Cole, Clean Fairfax: Intro by Video
  - Katie Register, CVW: Additional info about Clean Fairfax
  - Jim Deppe, VACA, Lynnhaven River NOW: VA Conservation Network's Common Agenda

#### November

- Erin Chase: Virginia Network for Democracy and Environmental Rights Intro
- Christina Trapani: Eco Maniac Company Intro
- Jessica Steelman: A-NPDC/Greenworks Intro
- Main Topic: Green Business
  - Tom Griffin, Virginia Green Travel: Intro to Virginia Green program
  - Matt Gove, Surfrider Foundation: Ocean Friendly Restaurant Program

#### December

- Plastic Pollution & the CBF; Natasha Rathlev, Chesapeake Bay Foundation (Richmond Office)
- The Next Swell; Jackie Bort
- "No Butts About It"; Wayne Jones, Keep Suffolk Beautiful, askHRgreen.org
- New Abandoned & Derelict Vessel Work Group; Katie Register
- Balloon & Polystyrene Legislation: Mark Swingle
- Local governments' action on bag fees; Zach Harrington, Clean Fairfax

### 2021 Topics

#### January

- Cigarette litter and fishing line recycling programs in VB; Mike Moore, Virginia Beach Parks and Recreation:
- Shiver in Virginia events; Keep VA Beautiful
- Legislative updates; Jim Deppe (EPS bill) and Mark Swingle (balloon bill)
- Planning VPPPN topics for 2021
- Starting a Facebook group page for VPPPN
- Victoria Tolson, Nauticus: Planet or Plastic Exhibit

## February

- Legislative updates; Jim Deppe (EPS bill) and Mark Swingle (balloon bill)
- PPE (masks and gloves) litter on national, state, and local level
  - Ocean Conservancy -- Sarah Kollar
  - Clean VA Waterways -- Katie Register
  - VA Beach -- Mike Moore
- Planning Earth Day cleanups in VA Beach

## March

- Adopt a Stream program in Prince William County -- Veronica Tangiri and Jess McCaulley
- Mid-Atlantic Marine Debris Summit -- Virginia Witmer, VA Coastal Zone Management Program
- Straw programs (reducing the use of single-use plastic straws)
  - Christina Trapani, overview of awareness videos & KIBC's 2018 efforts
  - Rebekah Eastep, Ask HRgreen.org about their two 2019 straw campaigns in restaurants
  - Katie Register, Clean VA Waterways' Kick the Straw program for schools
  - Meghann Quinn (DEQ) and Tom Griffin (VA Green) re: their work in Richmond
- Legislative update from Karen Forget, Lynnhaven River NOW
- Earth Day cleanups in VA Beach
- Partner updates
  - Fees on Plastic Bag: "Next Steps" discussion to be held in April



# Stormwater + Litter Workshop

**Monday, February 10, 2020**

Randolph-Macon College, Ashland, VA

## Agenda

9:00 AM to 9:30 AM                      Registration, Coffee & Networking

9:30 AM to 11:55 AM

*Stormwater to Oceans: Making the Connection also Plastic Production Projections*  
**Katie Register**, Executive Director, Clean Virginia Waterways of Longwood University

*Legislation Solutions to Reduce Litter: Update from the VA General Assembly*  
**Jen Cole**, Executive Director, Clean Fairfax Council and **Zach Huntington**, Clean Streams Program Manager, Clean Fairfax Council and Litter Free Virginia

*Evaluation of Performance of Stormwater Technologies: Stormwater Testing and Evaluation for Products and Practices (STEPP)*  
**Thomas G. Sprehe**, PE, BCEE, Sr. Vice President, Director of Innovation and Technology, KCI Technologies, Inc.

*Case Studies:*

*MS4 Floatable Monitoring and Controlling Plastic Pollution in Prince William County*  
**Tim Hughes**, Environmental Services Division, Public Works, Prince William County and  
**Veronica Tangiri**, Water Quality /Adopt-A-Stream Coordinator, Prince William Soil and Water Conservation District

*Floatable Monitoring: How, Why, Using the Data, Lessons Learned*  
**Heather Ambrose**, MS4 Permit Coordinator, Stormwater Planning Division, Fairfax County Department of Public Works and Environmental Service, and **Jen Cole**, Executive Director, Clean Fairfax Council

**12:00 to 12:35 PM                      Lunch**

**12:35 to 4:00 PM**

*2020 NOAA Marine Debris Program Overview & Project Activities*  
**Christie Kehoe**, Mid-Atlantic Coordinator, National Oceanic and Atmospheric Administration, Marine Debris Program

*Reducing Littering Behavior: The Proven Tools of Social Marketing*  
**Virginia Witmer**, Outreach Coordinator, Virginia Coastal Zone Management Program at the Virginia Department of Environmental Quality

*The Virginia Marine Debris Reduction Plan:*  
Small Group Discussions  
Setting Priorities for 2021-2025

*Discussion of next steps*

**4:00 PM**

## **Adjourn**

### **Co-sponsors:**

Workshop coordinated by Clean Virginia Waterways of Longwood University with the following partners:

- Clean Virginia Waterways of Longwood University
- Virginia Water Monitoring Council
- Alliance for the Chesapeake Bay with funding from the National Fish and Wildlife Foundation
- Virginia Lakes and Watershed Association
- Virginia Coastal Zone Management Program
- Prince William County Environmental Services--a division of Public Works
- National Oceanic and Atmospheric Administration, Marine Debris Program



## **SPEAKERS CONTACT INFORMATION**

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- Veronica Tangiri, Prince William County Soil and Water Conservation District  
571-379-7514 [waterquality@pwsacd.org](mailto:waterquality@pwsacd.org)
- Tim Hughes, Prince William County Public Works  
703-792-7073 [thughes@pwcgov.org](mailto:thughes@pwcgov.org)
- Jen Cole, Clean Fairfax Council  
703-324-5471 [jen@cleanfairfax.org](mailto:jen@cleanfairfax.org)
- Zach Huntington, Clean Fairfax Council  
804-214-1905 [zach@cleanfairfax.org](mailto:zach@cleanfairfax.org)
- Christy Kehoe, NOAA Marine Debris Program  
240-533-0393 [christy.kehoe@noaa.gov](mailto:christy.kehoe@noaa.gov)
- Virginia Witmer, Virginia Coastal Zone Management Program at the Virginia Department of Environmental Quality 804-698-4320 [Virginia.Witmer@deq.virginia.gov](mailto:Virginia.Witmer@deq.virginia.gov)
- Thomas G. Sprehe, PE, BCEE, KCI Technologies, Inc.  
410-316-7979 [Thomas.Sprehe@kci.com](mailto:Thomas.Sprehe@kci.com)

### **Attendee List**

	Last Name	First Name	Affiliation
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1	Alexander	Doug	Old Dominion University
2	Allen	Keith (William)	City of Newport News
3	Ambrose	Heather	Fairfax County Stormwater Planning Division
4	Askew	Tina	Hanover County Public Works
5	Ausink	Cris (Christine)	City of Hampton- Clean City Commission
6	Brown	Megan	Henrico County
7	Cammarata	Juliana	Jacobs
8	Chiro	Yari	US Marine Corps
9	Clarke	Jenn	RVAH2O   City of Richmond Stormwater Utility
10	Clay	Calvin	Old Dominion University
11	Cloe	Weedon	Chesterfield County / VWMC
12	Cole	Jen	Clean Fairfax
13	Copeland	Tara	City of Virginia Beach
14	Crow-Dolby	Michelle	Fredericksburg Clean & Green Commission
15	Daniels	Aleta	Keep Prince William Beautiful
16	Dent	Jake	Prince William County Schools
17	Durden	Jamie	City of Suffolk
18	Edelstein	Bryan	Prince William County Schools
19	Ek	David	Henrico County
20	Field	Lorne	Chesterfield County Environmental Engineering
21	Foraste	J. Alex	VA Dept of Transportation (VDOT)
22	French	Chris	Forterra
23	French	Wayne	Prince William County Schools
24	Griffith	Rachel	Old Dominion University
25	Heflin	Stacey	Henricopolis SWCD
26	Hoverman	Kathy	KCI Technologies, Inc
27	Hudick	Mariya	Tri-County/City Soil & Water Conservation District
28	Hughes	Frank	Henrico County
29	Hughes	Tim	Prince William County
30	Huntington	Zach	Clean Fairfax
31	Jones	Donald	Old Dominion University
32	Kehoe	Christy	NOAA Marine Debris Program
33	Kumar	Sidd	PlanRVA
34	Lane	Dylan	US Marine Corps
35	Lassetter	Jessica	Alexandria City Govt
36	Lilly	Nancy	Lynchburg Water Resources
37	Lin	Catherine	Arlington Public Schools
38	Marshall	Layne	EPA
39	Merin	Elizabeth	Fairfax County Department of Public Works and Environmental Services
40	Moshier	Kimberly	City of Newport News
41	Nickerson	Raya	Town of Dumfries
42	Nusz	Laura	City of Newport News

43	Ozmon	Ivy	Manassas
44	Palmer	Ashley	Fairfax County
45	Pellitteri	Gavin	Alexandria City Govt
46	Peterson	William	wpeterson@reston.org
47	Register	Katie	Clean VA Waterways, Longwood University
48	Rocha, Jr.	John	Central Virginia Community College
49	Sprehe	Tom	KCI Technologies, Inc.
50	Stewart	Garrett	gstewart@reston.org
51	Stewart	Sarah	PlanRVA
52	Stroinski	Tracy	City of Newport News
53	Sullivan	Jonmark	US Marine Corps
54	Sumers	Ian	Prince William County Schools
55	Sunderland	Jill	Hampton Roads PDC
56	Tangiri	Veronica	Prince William Soil and Water Conservation District
57	Turner	Kyle	Prince William County Schools
58	Uglow	Andrew	Prince William County Schools
59	Walker	Darryl	City of Petersburg - Department of Public Works and Utilities
60	Walker	Darryl	City of Petersburg, VA
61	Walker	Natali	Prince William Soil and Water Conservation District
62	Whitehead	Dean	Christopher Newport University
63	Wilkinson	Anders	Prince William County Schools
64	Williams	Deana	Henrico County
65	Wincele	Lily	City of Charlottesville
66	Witmer	Virginia	Virginia Coastal Zone Management Program/DEQ
67	Young	Shane	Prince William County Schools

### Appendix III – Monitoring Balloon-related Litter

Surveys were conducted on Fisherman Island National Wildlife Refuge on November 11, 2019, February 8, 2020 and July 15, 2020 as part of this grant. Below are all the raw data (aggregated). Items in purple are not including in the ranking since the origin of the debris item cannot be determined. For example, foam plastic pieces (expanded polystyrene) could come from cups, plates, floats, buoys, coolers, insulation, etc.

Rank	Debris Item	# of Items Recorded
Not ranked	foam plastic pieces (expanded polystyrene)	1230
1	Balloon-related litter (balloons + ribbons + attachments)	440
2	bottles beverage plastic	353
Not ranked	plastic pieces (hard)	342
3	construction materials	299
4	rope pieces	230
5	bottles beverage glass	106
6	buoys, floats	77
7	bottle caps plastic	76
8	food wrappers	65
9	shotgun wad	60
Not ranked	plastic pieces (film)	53
10 (tie)	cups & plates plastic	43
10 (tie)	food containers (hard plastic)	43
12	bottles other (oil, lube, bleach, etc.)	41
13	cans beverage (metal)	36
14	fishing net & pieces	35
15	cups & plates paper	32
16	bags (plastic grocery)	31
17	toys	29
18	lids (plastic)	28
19	fishing pots & traps	25
20	fishing lures, light sticks	24
21	bags (plastic other)	22
22 (tie)	shotgun shell	19
22 (tie)	strapping bands	19
24	lightbulbs	18
25 (tie)	cups & plates foam	17
Not ranked	metal fragments	17
25 (tie)	tobacco packaging	17



27 (tie)	clothing/shoes	15
27 (tie)	glass pieces	15
29	packaging (other plastic/foam)	14
30	cigarette lighters	13
31	cigarette butts	11
32 (tie)	fishing line	10
32 (tie)	straws/stirrers	10
34	tennis ball	5
35 (tie)	cigar tips	4
35 (tie)	take out containers	4
35 (tie)	utensils (forks, knives, spoons)	4
38	k-cups	2
39 (tie)	6-pack holders	1
39 (tie)	bottle caps metal	1
39 (tie)	cans other (metal)	1
39 (tie)	fireworks	1
39 (tie)	personal products (condoms, diapers, tampons,etc. )	1
39 (tie)	tires	1
	bags (paper)	0
	medical waste (syringes, etc.)	0